CLAIM AMENDMENTS

Please amend claims 1, 7, 10, and 17-18 as follows.

1. (Currently Amended) A system, comprising:

a set of transceivers to couple a set of optical channels; and

an integrated optical circuit coupled to receive the set of optical channels from the set of transceivers, the integrated optical circuit having:

a <u>silica-based</u> set of optical amplifiers formed in the integrated optical circuit, an individual optical amplifier being a silica-based optical amplifier, an individual optical amplifier having an evanescent coupler to combine pump light with optical signal light, an individual optical amplifier having a gain section to amplify the combined pump light and optical signal light;

[[an]] <u>a silica-based</u> arrayed waveguide grating**[[s]]** (AWG) formed in the integrated optical circuit and coupled to the set of optical amplifiers; and

a set of waveguide elements coupled to outputs of the set of optical amplifiers,

the AWG having a star coupler coupled to the waveguide elements.

2. (Original) The system of claim 1, further comprising a set of optical fibers to couple the set of transceivers to the integrated optical circuit.

3. (Original) The system of claim 1, wherein the set of optical amplifiers comprises a set of waveguide elements to combine pump light and optical signal light.

4. (Original) The system of claim 3, wherein the set of optical amplifiers includes a set of gain portions coupled to the set of waveguide elements.

5. (Original) The system of claim 4, wherein the set of optical signals includes a multiple channel optical signal and the AWG is coupled to demultiplex the multiple channel optical signal into a set of single channel optical signals.

6. (Original) The system of claim 4, wherein the set of optical signals includes a set of single channel optical signals and the AWG is coupled to multiplex the set of single channel optical signals into a multiple channel optical signal.

7. (Currently Amended) An apparatus, comprising:

an integrated optical circuit having:

a set of optical amplifiers formed in the integrated optical circuit, an individual optical amplifier being a silica-based optical amplifier having a silica-based core, an individual optical amplifier having an evanescent coupler to combine pump light with optical signal light, an individual optical amplifier having a gain section to amplify the combined pump light and optical signal light;

an arrayed waveguide grating (AWG) formed in the integrated optical circuit and coupled to the set of optical amplifiers, the arrayed waveguide grating (AWG) being a silica-based arrayed waveguide grating (AWG); and

a set of waveguide elements coupled to outputs of the set of optical amplifiers,

the AWG having a star coupler coupled to the waveguide elements.

8. (Original) The apparatus of claim 7, wherein the AWG is coupled to a set of optical amplifiers inputs via a set of input waveguide elements.

9. (Original) The apparatus of claim 8, wherein the AWG is coupled to a set of optical amplifier outputs via a set of output waveguide elements.

10. (Currently Amended) The apparatus of claim 7, wherein an individual gain section is coupled to an individual waveguide element[[s]].

Claims 11-14. (Canceled).

15. (Previously Presented) The apparatus of claim 7, wherein each optical amplifier in the set of optical amplifiers has a predetermined length to compensate for non-uniform gain spectrum of the AWG.

16. (Canceled).

17. (Currently Amended) The apparatus of claim 7 **[[16]]**, further comprising a pump interface to couple pump light to the set of optical amplifiers.

18. (Currently Amended) The apparatus of claim 7 **[[16]]**, further comprising an optical signal interface to couple optical signal light to the AWG.

Claims 19-20. (Canceled)

21. (Previously Presented) The apparatus of claim 7, wherein the AWG includes a waveguide array, wherein a shape and width of each waveguide in the waveguide array is varied to produce a varied light distribution in the AWG waveguide array.

Claims 22-30. (Canceled).